

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
LOS ANGELES REGION**

**ORDER No. R4-2015-0032 A1**

**WASTE DISCHARGE REQUIREMENTS (WDR) FOR:**

**LOS ANGELES COUNTY FLOOD CONTROL DISTRICT (DISCHARGER),  
PROPOSED MAINTENANCE CLEARING OF ENGINEERED EARTH-BOTTOM  
FLOOD CONTROL CHANNELS, LOS ANGELES COUNTY (File No. 99-011)**

The California Regional Water Quality Control Board, Los Angeles Region, hereinafter Regional Board, finds that:

1. The Los Angeles County Flood Control District (LACFCD) is responsible for providing flood control through a network of channels (which are also waters of the State) throughout Los Angeles County to enhance public safety. Adequate channel capacity needs to be maintained in order to reduce the risk of loss of life or property that could otherwise result from flooding during large storm events. The LACFCD is authorized to perform such maintenance pursuant to the Los Angeles County Flood Control Act (Water Code Appendix § 28-2).
2. Channel capacity is maintained by clearing sediment, vegetation and debris within the channel to an engineered, pre-designed level.
3. For dredge and fill activities such as channel clearing, the Clean Water Act (CWA) requires permitting from the Army Corps of Engineers (ACOE) under CWA Section 404 and Water Quality Certification by the State under CWA Section 401 (401 Certification). In addition, under the State of California Fish and Game Code, Section 1600, such activities are also regulated by a Streambed Alteration Agreement (SAA) issued by the California Department of Fish and Wildlife (CDFW).
4. The State of California may also regulate such discharges through Waste Discharge Requirements (WDRs) as authorized by the Water Code. Pursuant to Water Code section 13263, the Regional Water Quality Control Boards are required to prescribe WDRs for any proposed or existing discharge unless WDRs are waived pursuant to Water Code section 13269.
5. No additional hardscape, concrete, or rock is authorized by these WDRs.

**Background/History**

- ~~5-6.~~ The Los Angeles County Flood Control Act (ACT) was adopted by the California State Legislature in 1915. The Act established the Los Angeles County Flood Control District and empowers it to provide flood protection, water conservation, recreation and aesthetic

enhancement within its boundaries. The Flood Control District is governed, as a separate entity, by the County of Los Angeles Board of Supervisors.

- | ~~6.7.~~ In 1997, LACFCD proposed complete clearing of 100 earth-bottom channels in anticipation of the El Niño storm season, encompassing a total of 886 acres. Of this acreage, approximately 203 acres were vegetated.
- | ~~7.8.~~ LACFCD developed a Maintenance Plan for the Annual Clearing of Earth-Bottom Flood Control Channels in 1999 (Maintenance Plan) in collaboration with the ACOE, CDFW (then CDFG) and the Regional Board. The Maintenance Plan has been published under later dates, but all versions of the Maintenance Plan define channel clearance by the 1997 pre-El Niño clearing.
- | ~~8.9.~~ The Maintenance Plan defined the reaches and included information about clearing methods for specific reaches, but the basis for determining the required extent of clearing is not documented in the Maintenance Plan and has not been transparent to the Board or the public.
- | ~~9.10.~~ In 1999, a Streambed Alteration Agreement, Memorandum of Understanding was entered into by LACFCD and CDFW (then California Department of Fish and Game (CDFG)) (MOU 5-076-99).
- | ~~10.11.~~ The ACOE permitted LACFCD's vegetation and debris clearing maintenance activities under the Section 404 Nationwide Permit 31 "Maintenance of Existing Flood Control Facilities" in 1998. The Regional Board issued a CWA Section 401 Water Quality Certification for these activities in 1999 (File No. 99-011).
- | ~~11.12.~~ During this time, the Regional Board and the ACOE developed the first programmatic permit and 401 Certification for the earth-bottom channel maintenance activities utilizing limits developed for the 1997 pre-El Niño clearing. However, the Regional Board recognized the need to ultimately develop a more comprehensive plan beyond direct use of the 1997 limits that would allow vegetation and the associated habitat to be preserved within these earth-bottom channels to the maximum extent feasible. At that time, the 404 Permit and 401 Certification only authorized 48.2 acres of the approximately 203 vegetated acres for clearance activities.
- | ~~12.13.~~ To mitigate the 48.2 acres impacted by removal of vegetation, the Big Tujunga Wash Mitigation Bank was established, which contains 62.7 acres (achieving a 1.3:1 mitigation ratio).
- | ~~13.14.~~ The success criteria for the Big Tujunga Wash Mitigation Area have been met. Field data collection for the functional analysis and success monitoring studies was conducted in August 2012 and reported in the 2012 Annual Report for the Big Tujunga Wash Mitigation Area.

- ~~14~~.15. The ACOE, after evaluation of updated information, has reissued the Nationwide Permit for these channel maintenance activities by the LACFCD every five years since 1998. The latest Nationwide Permit was issued in September 2014.
- ~~15~~.16. The number of soft bottom channels reaches authorized to be maintained under the Nationwide Permit has changed during each permit cycle due to channels being combined, or the addition of new channels. The ACOE divides channels into reaches that it considers to be sensitive and non-sensitive based on a Biological Opinion from the US Fish and Wildlife Service. The ACOE normally incorporates special conditions such as avoidance of nesting seasons or hand clearing, for reaches it deems to be sensitive.
- ~~16~~.17. The 401 Certification was renewed by the Regional Board on October 17, 2003, conditionally authorizing maintenance of 99 earth-bottom channels. At that time, the ACOE permitted maintenance of the same channels under Nationwide Permit 31 in letters dated October 21, 2003 (for 61 channels) and December 22, 2003 (for 17 channels). The total number of channels identified in these two letters differs from those in the CDFW (then CDFG) SAA and Regional Board's 401 Certification because the ACOE combined some channels in the Nationwide Permit 31.
- ~~17~~.18. The October 17, 2003 renewal of the Water Quality Certification for 99 channels was amended in September 2006. The amended Certification allowed for maintenance clearing activities in earth-bottom channel reaches within the County of Los Angeles. The amended Certification expired on March 15, 2007.
- ~~18~~.19. In 2003, the State Water Resources Control Board issued Order No. 2003 - 0017 - DWQ, "General Waste Discharge Requirements for Dredge and Fill Discharges that have received State Water Quality Certification," which requires compliance with all conditions of Water Quality Certifications. The 2003 State Board Order included regulation of discharges from earth-bottom channel maintenance.
- ~~19~~.20. On March 14, 2007, a Water Quality Certification application package was submitted by LACFCD with attachments requesting renewal and amendment of the Water Quality Certification for channel maintenance clearing activities. Specifically, LACFCD requested to renew and further amend the Water Quality Certification to include additional channel reaches. The Regional Board deemed the application complete on July 10, 2008.
- ~~20~~.21. The Regional Board extended the amended the October 17, 2003 Water Quality Certification by letter on September 10, 2007 until March 15, 2008, and extended it by letter again on August 29, 2008 until January 31, 2009.
- ~~21~~.22. The Regional Board letter of August 29, 2008, which extended the Water Quality Certification, required LACFCD to submit certain information to the Regional Board by November 14, 2008. To wit:

By this letter, we require the County [LACFCD] to submit to us a technical report with a reach by reach list of all the reaches proposed to be included in the renewed Certification with a hydrologic analysis of each reach and a assessment of the biological functions and values for each reach. This report shall be submitted by November 14, 2008 which will ensure we can complete the renewed certification in timely manner.

The required information was not submitted.

- ~~22,23.~~ A tentative Water Quality Certification, “99-011, 2009 renewal,” was released for public comment on July 6, 2009. Written comments were accepted until 5:00 p.m. on August 5, 2009. Response to comments and a revised tentative Water Quality Certification were prepared and published on the Regional Board website.
- ~~23,24.~~ The Water Quality Certification “99-011, 2009 renewal” was unable to be issued by the Regional Board because more than one year had passed from submission of a complete application (CWA § 401 [33 U.S.C. §1341] paragraph (1)). Accordingly, pursuant to federal law, LACFCD was authorized to proceed pursuant to Nationwide Permit 31 without conditions imposed by the Regional Board in the permit. The channel clearing activities continue to be regulated under and must separately comply with the provisions of LACFCD’s CWA Section 404 permit and the CDFW SAA.
25. To ensure compliance with State Water Quality Standards contained in the Basin Plan and other applicable Regional and State plans and policies for Water Quality Control, Waste Discharge Requirements (WDR) were required for the renewal of the project and were taken to the Regional Board for consideration in February of 2010. The WDRs were approved by the Regional Board on February 4, 2010 (2010 WDR). The 2010 WDR included 10 new channel reaches authorized to be cleared in addition to the reaches included in the previous Certification. The 2010 WDR also included the deletion of several reaches previously covered by the Water Quality Certification that were no longer earth-bottom channels.
26. On February 12, 2015, the Regional Board adopted renewed WDRs for discharges associated with channel clearing activities in Los Angeles County (2015 WDR). The term of the renewed 2015 WDR was one year.
27. Regional Board direction to Regional Board staff, upon issuance of the renewed 2015 WDR, included:
- a. Ensure transparency and clarity with regards to the use and results of Los Angeles County Flood Control District and US Army Corps of Engineers hydraulic models to determine channel capacities and reaches where more vegetation can remain.
  - b. Facilitate greater involvement of interested non-governmental stakeholder groups in discussions and, where possible, crafting of recommendations, regarding

- channel clearing activities, particularly in the Los Angeles River in light of river restoration and revitalization efforts.
- c. Coordinate principles and discussions related to activities regulated under this WDR with other water resource management efforts such as efforts to increase stormwater retention, beneficial use protection and enhancement, and river restoration projects.
28. Regional Board staff and LACFCD staff initiated a series of in-depth discussions, referred to as “WDR Working Group Meetings,” with interested stakeholder groups including Friends of the Los Angeles River, Arroyo Seco Foundation, Heal the Bay, the Nature Conservancy, Mountains Restoration Conservation Authority, San Fernando Valley Audubon, and Santa Clara Organization for Planning the Environment, which also included participation by ACOE, CDFW, and California Coastal Commission. Nine meetings were held between April 2, 2015 and December 15, 2015. Agendas, presentations, meeting notes and sign-in sheets are available at <https://dpw.lacounty.gov/lacfcd/WDR/workgroup.aspx>.
29. During these WDR Working Group Meetings, the group has:
- a. Discussed and raised the level of understanding of hydraulic models used in Feasibility Studies (as detailed in Findings 31 – 51);
  - b. Reviewed the channel maintenance obligations of the LACFCD, including ACOE requirements for ACOE-built channels, levee safety requirements, and FEMA requirements;
  - c. Reviewed concerns of environmental and conservation organizations, including Friends of the Los Angeles River and Heal the Bay, especially pertaining to Reach 25 of the Los Angeles River and Compton Creek;
  - d. Discussed results of the new Risk and Uncertainty analysis required for ACOE-built channels, as applied to Reach 25 of the Los Angeles River; and
  - e. Identified, and then reviewed, results of a pilot project employing an alternative clearing method of mowing instead of scraping to remove vegetation in the lower Los Angeles River (Reach 25).
30. As described above, the WDR Working Group prioritized its discussions and pilot efforts on the lower reaches of the Los Angeles River.

### **Background on Watersheds within which the Earth-Bottom Channels are Located**

- 24.31. The reaches for which maintenance clearing activities are covered by this WDR are located in the Los Angeles River watershed, San Gabriel River watershed, Santa Clara River watershed, Malibu Creek watershed, and Dominguez Channel watershed. The Los Angeles County Department of Public Works has directed the development of, or participated in the development of, Master Plans for each of these watersheds. Each of

these Master Plans include objectives and plans for environmental and habitat enhancement in addition to flood control.

The Los Angeles River Master Plan was completed and adopted by the County of Los Angeles Board of Supervisors in 1996. The Los Angeles River Master Plan created a multi-objective program for the river. This plan recognizes the River's important purpose for flood protection, and it advocates for environmental enhancement, recreational opportunities, and economic development. In addition, the Los Angeles River Revitalization Master Plan was completed by the City of Los Angeles in April 2007 with a vision of the future of the Los Angeles River.

The San Gabriel River Corridor Master Plan was completed in June 2006 for the County of Los Angeles Department of Public Works to enhance habitat, recreational and open space resources along the river in a manner compatible with flood and water management.

The Santa Clara River Enhancement and Management Plan (SCREMP) completed in 2005 is a guidance document for the preservation, enhancement, and sustainability of the resources that occur within the 500-year floodplain limits of the Santa Clara River mainstem. This plan was prepared for the Ventura County Watershed Protection District and the Los Angeles Department of Public Works.

The Malibu Creek Watershed Council developed the 1995 Malibu Creek Watershed Natural Resources Plan and other studies to protect and preserve the health of the Malibu Creek Watershed. Los Angeles County Department of Public Works is a partner in the Watershed Council.

The Dominguez Watershed Management Master Plan was developed for the County of Los Angeles Department of Public Works in 2004. The Plan provides for the protection, enhancement, and restoration of the environment and beneficial uses of the Dominguez Watershed.

The Los Angeles River flows 51 miles from the western end of the San Fernando Valley to the Pacific Ocean at Long Beach and includes several major tributaries including Tujunga Wash, Burbank Western Channel, Arroyo Seco, Rio Hondo, and Compton Creek. The Los Angeles River watershed comprises an area of about 834 square miles. Of this area, the incorporated cities and unincorporated portion of Los Angeles County comprise 599 square miles. The remaining acreage consists of the Los Angeles National Forest and other uses.

The San Gabriel River watershed comprises a 682 square mile area of eastern Los Angeles County and has a main channel length of approximately 58 miles. It originates in the San Gabriel Mountains and flows through heavily developed areas before emptying into the Pacific Ocean in Long Beach. The main tributaries of the river are Walnut Creek, San Jose Creek, and Coyote Creek. In the middle of the watershed are large

spreading grounds used for groundwater recharge. The watershed is hydraulically connected to the Los Angeles River through the Whittier Narrows Reservoir (occurring mostly during high storm flows).

The Santa Clara River is approximately 100 miles long and the watershed comprises approximately 1,200 square miles. The river originates in the northern slope of the San Gabriel Mountains in Los Angeles County, traverses Ventura County, and flows into the Pacific Ocean halfway between the cities of San Buenaventura and Oxnard. Large tributaries include Sespe, Piru and Santa Paula Creeks and a lagoon exists at the mouth of the river. Land use is predominately open space with concentrations of residential, agriculture, and some industrial uses along the mainstem of the river. The Santa Clara River is the largest river system in southern California that remains in a relatively natural state; this is a high quality natural resource for much of its length.

The Malibu Creek watershed comprises 109 square miles. The watershed extends from the Santa Monica Mountains and adjacent Simi Hills to the Pacific Coast at Santa Monica Bay. Several creeks and lakes occur in the upper portions of the watershed, and these ultimately drain into Malibu Creek at the downstream end of the watershed. Malibu Creek drains into Malibu Lagoon, a 13-acre tidal lagoon.

The Dominguez Channel watershed is 133 square miles. This watershed includes the Los Angeles and Long Beach Harbors. The Dominguez Channel is 15 miles long. The watershed also includes Wilmington Drain, which empties into Machado Lake and other drainages, which drain directly or indirectly to the Los Angeles and Long Beach Harbors. Ninety-one percent of land in the watershed is developed.

### **Feasibility Study Requirements and Status**

25:32. As an outgrowth of the original Maintenance Plan development and the incomplete effort in 2008 to further develop an understanding of the hydrology and biological functions for each reach in order to reform and improve the required channel clearing and to make the basis transparent to the Board and the public, the 2010 WDR required ‘Feasibility Studies,’ as discussed below, for each watershed.

26:33. The 2010 WDR required the study of the hydraulic capacity and existing conditions of all reaches covered by the 2010 WDR to determine where a potential may exist for native vegetation to remain within the soft-bottom portion of the channel (Feasibility Study). The Feasibility Studies also required identification of any channels that could potentially provide restoration opportunities for riparian habitat. These restoration opportunities were to be identified based on the Feasibility Studies and a consideration of restoration plans by other agencies.

27:34. The required analyses were split over multiple years to allow LACFCD flexibility in completing the required studies. The data and technical ability necessary to conduct the required analyses exists within LACFCD.

- ~~28~~35. LACFCD implemented the Feasibility Study process with a schedule of one or more watersheds per year to be analyzed, such that completion of all watersheds/studies would occur within six (6) years of the 2010 WDR issuance.- LACFCD has solicited stakeholder input during Feasibility Study Workplan development.
- ~~29~~36. LACFCD has completed three Feasibility Study Workplans, including the Los Angeles River watershed, the San Gabriel River watershed and the Malibu and Dominguez Channel watersheds.
- ~~30~~37. The Los Angeles River Feasibility Study Workplan was completed in July 2010. The Los Angeles River includes 25 maintained soft-bottom reaches, which range from 25 feet to 11,000 feet in length.
- ~~31~~38. The Regional Board conditionally approved the Los Angeles River Feasibility Study Workplan on September 10, 2011 pending an additional hydraulic analysis to be completed. To date, the additional hydraulic analysis has not been completed and Board staff have determined that the additional analyses are not needed at ~~at~~ this time.
- ~~32~~39. The Los Angeles River Feasibility Study included a comprehensive hydraulic analysis for Los Angeles River soft-bottom channel reaches and was developed using the United States Army Corps of Engineers (USACE) Hydrologic Engineering Center's River Analysis System (HEC-RAS) computer program. HEC-RAS is designed to perform hydraulic calculations for natural and improved channels.

Channel geometry data was obtained from as-built plans, field measurements, LiDAR (Light Detection and Ranging), and recent topographic surveys. Design flow rates were used in the hydraulic analysis to ensure the soft-bottom reaches continue to provide the as-designed flood protection to the public. For undeveloped areas, design flow rates accounted for the effects of a burned watershed and the inclusion of sediment (bulking).

Estimating the roughness coefficients through calibration was not possible since stream gage stations were not available within the soft-bottom channel reaches. Roughness coefficients were determined following the procedures specified in references "Open-Channel Hydraulics" by Ven T. Chow and "Guide for Selecting Manning's Roughness Coefficients for Natural Channels and Flood Plains," United States Geological Survey Water-supply Paper 2339. Field site investigations were conducted for all soft-bottom reaches and the information gathered was used to determine appropriate adjustment factors and estimate roughness coefficients.

For reaches that were found to have additional channel capacity, the amount and type of additional vegetation that might be allowed to remain in the channel reach was determined in consultation with a qualified biologist. A revised hydraulic model was then developed using roughness coefficients adjusted to represent the recommended vegetation levels. Results of these models were checked to ensure that sufficient capacity

was maintained along the entire reach. For reaches with insufficient capacity, the amount of vegetation that needs to be removed to restore flood capacity will be determined.

~~33~~.40. Of the 25 reaches in the Los Angeles River Watershed, the Los Angeles Feasibility Study Report identified seven reaches where additional native vegetation or the replacement of non-native vegetation with native vegetation could occur. No change in current maintenance vegetation clearance practices was recommended for eleven reaches due to insufficient hydraulic capacity for additional vegetation. In six reaches, additional vegetation removal may be required. In Bull Creek Main Channel Outlet (Reach 7), concerns relating to vector control will require further analysis of current maintenance activities.

~~34~~.41. The seven Los Angeles River reaches that were identified as having the capacity to contain additional native vegetation or the replacement of non-native with native vegetation are:

- a.) **SBC Reach 22, Halls Canyon Channel.** Except on the crib structures, allow native shrubs to grow on the invert of the entire channel reach. Selectively protect native shrubs by removing non-native vegetation
- b.) **Reach 25, Los Angeles River.** In the last 500 feet of the reach (i.e., the downstream end of reach) and on the left bank looking downstream, allow four willow trees to grow and mature at the edge of the water. The willow trees will be maintained under the existing maintenance plan that allows for trimming of lower branches.
- c.) **Reach 1, Bell Creek.** Allow willow canopy to spread outside the channel. Allow native shrubs such as coyote bush and mule fat to become established in this area. Relocate the existing chain-link fence to protect this area from current uses which include staging and storage of maintenance equipment and materials.
- d.) **Reach 20, Webber Channel, Tributary to Halls Canyon Channel.** Allow native herbaceous and shrub species to grow on right bank looking downstream. Selectively remove non-native species from right bank.
- e.) **Reach 21, Webber Channel (main channel inlet at bridge), tributary to Halls Canyon Channel.** Allow native herbaceous and shrub species to grow on left bank looking downstream underneath the coast live oak woodland. Selectively remove non-native ground cover species (e.g., ivy) from the left bank.
- f.) **Reach 19, Pickens Canyon, tributary to Verdugo Wash.** Except for on the crib structures, allow native shrubs to grow on the invert of the channel reach from the upstream end to the pedestrian bridge at Mountain Avenue. Selectively protect native shrubs by removing non-native vegetation.

- g.) **Reach 9, Tributary to the Sepulveda Flood Control Basin Project No. 106.**  
Remove non-native ash trees at the top of both banks and replace with native trees. Sycamore trees are the preferred native trees to be planted.

35-42. The Los Angeles River reaches identified in the Los Angeles Feasibility Study Report as having insufficient capacity to allow for additional native vegetation include Reaches 3, 4, 5, 6, 8, 10, 15, 16, 24, 96, and 100. These reaches are already being fully cleared on an annual basis. The Los Angeles River reaches identified in the Los Angeles Feasibility Study Report as having insufficient capacity to allow current areas of vegetation to remain include Reaches 2, 12, 13, 14, 19, and 99. These reaches have contained vegetation protected from removal under permits currently in force. LACFCD will seek approvals from applicable agencies to remove the vegetation that now remains in these reaches.

36-43. The Los Angeles Feasibility Study Report with recommendations for changes to maintenance regimes was completed in August 2013 (without the additional hydraulic analysis). Changes to vegetation clearing maintenance consistent with the recommendations from the Feasibility Study will be incorporated into an updated Maintenance Plan for soft-bottom reaches, which is under development as described in Findings 38 and 46.

37-44. The San Gabriel River Feasibility Study Workplan was completed in January 2013. The Regional Board approved the San Gabriel River Feasibility Study Workplan on January 21, 2015. The San Gabriel River includes 7 maintained soft-bottom reaches, which range from 30 feet to 31,000 feet in length.

38-45. The Malibu Creek and Dominguez Channel Feasibility Study Workplan was completed in April 2014. The Regional Board approved the Malibu Creek and Dominguez Channel Feasibility Study Workplan on January 21, 2015. The Malibu and Dominguez Channels includes 11 maintained soft-bottom reaches, which range from 56 feet to 3,584 feet in length.

39-46. The final watershed that requires feasibility studies is the Santa Clara River Watershed.

47. No additional Feasibility Study workplans or Feasibility Study Reports have been received by the Regional Board during the one-year term of the 2015 WDR.

48. While the lower reaches of the Los Angeles River were a priority for the WDR Working Group, because the engineered aspects of the lower reaches of the Los Angeles River were constructed by the ACOE, there are additional federal requirements that must be met before changing the characteristics of the channel, and therefore, flood protection. LACFCD hired WEST Consultants to perform an evaluation of the lower reach of Los Angeles River (Reach 25) using the US Army Corps of Engineers' Risk & Uncertainty

analysis. A Risk & Uncertainty analysis is a statistical analysis that takes into account the uncertainty of the hydrology, hydraulics, and consequences. The preliminary results of this analysis show there is an 80% probability that the 133-year flood's water surface elevation would be below the as-constructed top of levee elevation in Los Angeles River Reach 25.

49. LACFCD is working with the ACOE to address ACOE comments on the Risk and Uncertainty analysis. When the Risk and Uncertainty analysis is finalized, LACFCD will be able to consider applying to the ACOE to modify channel clearing activities in this reach.

50. An interagency team consisting of LACFCD, Regional Board, ACOE and CDFW are collaborating on an updated Maintenance Plan to meet the requirements of all agencies by 2017.

### **Pilot Project**

51. In order to determine if alternative maintenance methods for removing vegetation in lower Los Angeles River, Reach 25, would have less negative impact to beneficial uses and would be operationally feasible, LACFCD executed a pilot project during their channel clearing activities in October of 2015.

52. The Reach 25 pilot project included clearing invasive species by the standard methods, castor bean by hand and *Arundo donax* by excavator; however, most of the vegetation was removed by mowing from a skidsteer vehicle or a flail mower close to the water's edge. Dump truck use was reduced to less than 10% of previous year's and water use was reduced to less than 50% of previous year's. Mowing left a short growth of vegetation in place, which is expected to lessen erosion from the site and provide faster regrowth of habitat in the area. An evaluation of the potential for long-term buildup of material and the environmental impacts and impacts to LACFCD operations is continuing.

### **Additional Findings**

40.53. During the winter season, LACFCD personnel continually monitor flow conditions in channels and inspect facilities. Urgent work conducted during and immediately after storm events is usually not routine maintenance, but instead, may be considered an emergency activity. However, many of the repairs are small in scope and would otherwise fit under the provisions of this WDR.

41.54. As part of the flow and water quality monitoring systems, LACFCD maintains various stations throughout the County. These stations consist of temporary and/or permanent houses with attached gauges, conduits, pumps, sensors, and probes typically placed in the

invert of the channel. The houses may be mounted on bridges and/or other structures along several watercourses in the County. In order to obtain accurate data, the flow adjacent to the gauges, conduits, pumps, sensors, and probes must be laminar (i.e., non-turbulent). Routine maintenance, inspection and calibration, including clearance of accumulated sediment and/or vegetation within three feet of the water quality monitoring equipment may need to be conducted during dry weather to ensure proper operation. Stream Gages in earth-bottom reaches are maintained in the San Gabriel River and Santa Clara River and locations are included in Attachment 1.

42.55. Any project that is necessitated due to imminent threat to life or property is subject to ACOE Regional General Permit 63 (RGP 63). Emergency is defined as, “a sudden, unexpected, occurrence, involving a clear and imminent danger, demanding immediate action to prevent or mitigate loss of, or damage to, life, health, property, or essential public services. Emergency includes such occurrences as fire, flood, earthquake, or other soil or geologic movement, as well as such occurrences as riot, accident, or sabotage.”

43.56. Neither this WDR, nor ~~the~~ any previous WDR or Water Quality Certifications, authorize any new construction or modification of flood control facilities.

44.57. LACFCD has developed and published watershed maps, which indicate areas of maintenance (impact acreages and types of vegetation impacted) and approximate schedules (including baseline biological surveys, post-surveys and maintenance activity descriptions). This information has been made publicly available on the LACFCD website and has been noticed to interested persons. For each reach, the information has included: (a) the proposed schedule; (b) a description of the reach’s existing condition; (c) the area of proposed impact; and (d) a description of any existing aquatic resources (e.g., wetland/riparian vegetation based on readily available information and pre-clearing biological surveys).

45.58. LACFCD has developed and published and submitted to the Regional Board, Annual Project and Mitigation Monitoring Reports as required on May 4, 2010, for 2009-2010; August 30, 2011, for 2010-2011; April 30, 2012, for 2011 –2012; May 1 2013, for 2012-2013; and May 29, 2014, for 2013-2014.

46.59. LACFCD has developed and complies with a Hazard Analysis and Critical Control Points (HACCP) for Malibu and Santa Monica Canyon watersheds to limit the spread of invasive New Zealand mudsnail and giant reed (*Arundo donax*), dated April 1, 2010.

47.60. LACFCD has begun to draft, and proposes to complete, in collaboration with the ACOE, CDFW and Regional Board by 2017 an updated Maintenance Plan. This Maintenance Plan will incorporate revised scopes of work for previously authorized reaches, a re-evaluation of sensitive or non-sensitive status (per the US Fish and Wildlife Service’s Biological Opinion) and an updated list of reach numbers and organizations. It will incorporate reaches 1-110, which after accounting for the removal and splitting of several

reaches will total 108 reaches proposed for maintenance. Details of the proposed changes are listed below:

- a. Reaches that have been removed (no longer maintained by LACFCD) include Reaches 11, 17, 23, 30, 31, 65, 68, 81, 83, 84, 85 and 111 (12 total);
- b. Reaches that have been combined include Reach 59 into Reach 58 and Reach 62 into Reach 61;
- c. Reaches 25, 40, and 43 now have both an (a) and (b) component and are discussed separately;
- d. Reaches 60, 59, and 58 are no longer combined with 55, Reaches 67 and 69 are no longer combined, and Reaches 70 and 68 are no longer combined;
- e. Consequently, there are 14 numerical reaches that will be removed and three reaches that will be added (due to the splitting of 25, 40 and 43) to the Maintenance Plan.
- f. Within the original reaches 1-110, therefore, are 100 active reaches. The previous 2011 WDR already permitted Reaches 101-110 and will continue to be covered in this ~~new 2015~~-WDR.
- g. Land use changes have also resulted in the addition of new reaches (Reaches 112–119). Once these have been added, there will be a total of 108 reaches covered by the Maintenance Plan in development. Reaches 112–119 are not included in this WDR.

### FEMA Levee Certification

~~48.~~61. Currently, the County of Los Angeles is a participating community in the National Flood Insurance Program (NFIP). The Federal Emergency Management Agency (FEMA) administers the NFIP, identifies flood hazards, assesses flood risks, and provides appropriate flood hazard and risk information to communities. This information is provided through Flood Insurance Rate Maps (FIRMs). FEMA has currently updated these maps and modernizing FIRMs. This effort is called Flood Map Modernization or Map Mod.

~~49.~~62. FEMA has required all levee owners to certify their levees before mapping them in Map Mod. Property owners in the communities protected by these levees have a 1-percent-annual-chance (100-year flood) level of flood protection and will likely not be required to secure flood insurance by lenders.

~~50.~~63. LACFCD has undertaken the effort to certify 65 miles of levees in Los Angeles County. LACFCD is the lead for Compton Creek (in conjunction with ACOE as a co-lead), San Gabriel River, Coyote Creek, Dominguez Channel, Santa Clara River, and tributaries to the Santa Clara .

~~51.~~64. The levee certification consists of three main technical components:

1. Hydraulic analysis;
2. Subsurface soil exploration and geotechnical/structural (design) analysis; and
3. Formal Operation and Maintenance (O & M) Plan and Report.

~~52-65.~~ The completed certification work has been submitted. FEMA may accredit the levee systems, where appropriate, and present the updated, accurate flood hazard and risk information on the maps and related documents.

~~53-66.~~ In order to obtain FEMA accreditation for the levees, LACFCD is required to demonstrate that maintenance of the levees will ensure their stability, height, and overall integrity in order to continue providing protection to the adjacent residents.

### **Army Corps of Engineers Levee Requirements**

~~54-67.~~ While FEMA accredits levees as meeting requirements set forth by the National Flood Insurance Program, the Army Corps of Engineers addresses operation and maintenance, risk management, and risk reduction levee needs as part of its responsibilities under the Army Corps of Engineers Levee Safety Program. The Army Corps of Engineers may inspect levees in Los Angeles County and require risk reduction improvements to the levees by LACFCD.

~~55-68.~~ The Army Corps of Engineers also maintains a Levee Vegetation Management Policy. The most recent descriptions of the ACOE's vegetation management policy are contained in the ETL 1110-2-583 "Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures," adopted by the ACOE on April 30, 2014, which generally requires that there is no vegetation within 15 feet of a levee structure.

### **Clean Water Act Section 401 Certification**

~~56-69.~~ The current Nationwide Permit 31 issued by the ACOE authorizes maintenance in 61 existing channels. Biological Consultation between the ACOE and the U.S. Fish and Wildlife Services is ongoing for 31 of the channel reaches covered by this WDR. This Nationwide Permit 31 expires in 2017. This WDR also acts as a CWA Section 401 Water Quality Certification for the Nationwide Permit 31 for these activities.

~~57-70.~~ Pursuant to section 3860, Title 23, California Code of Regulations (23 CCR), the following three standard conditions shall apply to these channels:

- a. This Certification action and Order is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant

to Water Code section 13330, and California Code of Regulations, title 23, chapter 28, article 6 (commencing with section 3867).

b. This Certification action and Order is not intended and shall not be construed to apply to any activity involving a hydroelectric facility requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license, unless the pertinent Certification application was filed pursuant to subsection 3855(b) of chapter 28, title 23 of the California Code of Regulations, and the application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.

c. This Certification is conditioned upon total payment of any fee required under title 23 of the California Code of Regulations and owed by the Applicant.

**IT IS HEREBY ORDERED** that the Los Angeles County Flood Control District, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following, pursuant to authority under Cal. Water Code Sections 13263 and 13267.

### **Permitted Activities**

1. LACFCD proposes to clear vegetation and debris from 100 earth-bottom channel reaches in order to provide flood control and protect human health and property.
2. The 100 channels include a total of 45 miles of waterways throughout Los Angeles County and approximately 947 acres of jurisdictional waters of the United States.
3. The reaches listed in Attachment 1 are included under this WDR. This list has been updated to reflect all 100 channel reaches and is consistent with the list in the Preliminary Jurisdictional Delineation Report prepared by LACFCD dated September 4, 2014. Attachment 1 includes the LACFCD reach number (1 to 110), hydrologic code, beneficial uses, length, acreage, and location information.
4. Channel reaches identified as County Reach numbers 11, 17, 23, 30, 31, 65, 68, 81, 83, 84, 85 and 111 (12 total) are not included in this WDR and shall be removed from the Approved Maintenance Plan. Any required maintenance in these channels will be permitted or certified separately.

5. Land use changes have resulted in the addition of new reaches, Reaches 112–119. These new reaches will be permitted under a separate Section 401 Water Quality Certification.
6. Unless approved by the Regional Board after results of the Feasibility Study and approved by other appropriate regulatory agencies including the ACOE and CDFW, channel clearing shall not exceed “1997/1998 storm season clearing level” conditions established by the Regional Board, CDFW (then, CDFG), and ACOE prior to the 1997 El Niño storm season (Reaches 1-100). This baseline level was utilized to identify the maximum vegetation removal authorized for each reach, and will be incorporated into the new Maintenance Plan with changes resulting from the Feasibility Studies as the changes are approved by the appropriate regulatory agencies identified above.
7. LACFCD shall comply with the specifications of the Maintenance Plan, and the Mitigation Monitoring Program prepared for this maintenance program, or any subsequently approved plans that follow. Only revisions approved by the Regional Board Executive Officer, ACOE and CDFW shall be authorized for this project.
8. Clearing will be either through the use of heavy equipment, including trucks, bulldozers, dump trucks, and front-end loaders, along with other specialized equipment, or in areas where there are sensitive species and native vegetation, clearing shall take place by hand as specified in the approved Maintenance Plan in order to selectively avoid protected resources. Equipment will access the channels by existing access roads.

**Maintenance of All Existing Invert Access Ramps**

9. All existing channel invert access ramps shall be part of the approved annual maintenance for all earth-bottom channel facilities, including new reaches that have been added to the WDR. The invert access ramps, whether constructed with dirt, lined with concrete, or armored with riprap on the sides, are critical structures for access to earth-bottom channel reaches.

Maintenance activities for these ramps shall include inspection, minor maintenance repairs, and storm damage repair and rehabilitation. Storm damage repair and rehabilitation includes restoring ramps that are damaged or washed out during a storm, back to pre-storm conditions.

10. Notching and limited vegetation removal from drain channel outlets shall be conducted on reaches where mechanical removal of sediment and vegetation is allowed, and is consistent with the original channel designs. In stream reaches that are approved for mowing or hand removal of vegetation, work on installing notches at 45-degrees and clearing drain channel outlets shall be conducted by hand and/or hand tools, and shall be consistent with all terms of the Maintenance Plan and WDR.
11. Maintenance activities may require conducting as-needed sediment removal to provide continuous flow (to address vector issues), capacity, vegetative growth, and proper

- drainage. Locations and amounts of sediment removed will be reported as part of the Annual Reports.
12. Non-emergency minor repairs during the winter season may include the following: regrading inverts to repair minor erosion and to remove ponded water; repair of minor storm damage; and in-kind structural repairs. These repairs may include, but are not limited to, minor in-kind riprap replacement, flap gate repair and/or replacement, invert and slope repairs, and erosion control structures.
  13. In order to obtain accurate flow readings from all monitoring equipment mounted on bridges and/or other structures, vegetation within monitored channels will be cleared to bank-full capacity (unless otherwise specified in the Annual Workplan) upstream and downstream of the gauges, conduits, pumps, sensors, and probes or bridge to obtain accurate readings and prevent equipment damage. In addition, maintenance may include performing repair and replacement in kind of existing monitoring equipment if inspection results require such activities. Stream gauge maintenance will occur between September 1 and March 1. If maintenance activities on these monitoring equipment is necessary during the nesting season, appropriate nesting bird surveys will be conducted prior to starting work. Routine maintenance, inspection and calibration, including clearance of accumulated sediment and/or vegetation within three feet of the water quality monitoring equipment may need to be conducted during dry weather to ensure proper operation.
  14. **Notification Protocol and Thresholds for Additional Review**  
Pursuant to California Water Code section 13267, LACFCD shall submit an **Annual Workplan** with a schedule of the upcoming reaches proposed for maintenance clearing. The Annual Workplan shall include, at a minimum, the following information: (a) proposed schedule; (b) acreage of areas to be impacted (vegetated and non-vegetated); (c) a description of any existing aquatic resources; (d) site-specific BMPs to be implemented; and (e) proposed application of pesticides. The Discharger shall send the Annual Workplan not later than July 15 each year to the Regional Board Executive Officer and 401 Certification Unit staff, and send notices of additional routine maintenance work as the needs are discovered in the field. The Executive Officer may require additional time to review or add additional requirements or require separate permitting for certain activities proposed upon review of the Annual Workplan or notice of additional routine maintenance work; however, if the Executive Officer does not provide any comments, additional requirements or a request for additional time within 60 days for the Annual Workplan, or 15 days for the notice of additional routine maintenance work, LACFCD is authorized to proceed pursuant to the Annual Workplan or notice of additional routine maintenance work as proposed.

Routine maintenance may require additional review if the work exceeds certain thresholds of impact. For projects that exceed the following thresholds, the Discharger shall provide information similar to a pre-construction notification for a 401 Water Quality Certification for 60-day review.

*Project Exceeds Original Footprint*

For any work resulting in temporary or permanent impacts within the ordinary high water mark outside the original project boundaries, LACFCD shall submit a new proposed scope of work to the Executive Officer with all pertinent information for consideration to support either confirmation that the project area(s) is within the scope of the WDR or a determination that the LACFCD must apply for supplemental WDRs or a separate CWA Section 401 Water Quality Certification for the work.

*Project Deviates from the Pre-Approved Surface Water Diversion Plan*

If water diversion is planned to occur in a manner which deviates from the Pre-Approved Water Diversion Plan, LACFCD shall submit the new plan to the Regional Board Executive Officer for review and approval. The Executive Officer is authorized to approve changes to the Surface Water Diversion Plan provided that it is consistent with this WDR.

**Best Management Practices**

15. All appropriate Best Management Practices (BMPs) shall be implemented in order to avoid any impacts to water quality. LACFCD shall follow the “BMP Manual for Soft Bottom Clearing” developed by LACFCD in 2003 and all other necessary BMPs. The maintenance clearing activities shall not result in indirect impacts to water quality or beneficial uses of downstream water bodies. The maintenance clearing activities shall not result in changes in the quantity or quality of water in downstream waterbodies as a result of maintenance activity, or during operation subsequent to the maintenance activities. The maintenance clearing activities shall not result in changes in water quality in the channel that would cause or contribute to water quality exceedances during periods between maintenance activities, or upon their annual completion.

**Feasibility Study (Pursuant to California Water Code 13267)**

16. The Regional Board requires Feasibility Studies of the earth-bottom channels and associated maintenance activities covered by this WDR in order to either:
  - a. Determine that the channel clearing activities have avoided and minimized where possible vegetation clearing; and appropriately mitigated for effects of vegetation clearing on the beneficial uses of the affected reaches where avoidance is not possible; or
  - b. Support modifications to channel clearing activities to achieve the appropriate and necessary levels of avoidance and minimization; and mitigation where avoidance is not possible.

17. As part of the on-going assessment of channel conditions and hydraulic capacity, LACFCD shall perform a study of the hydraulic capacity and existing conditions of all reaches covered by this WDR to determine where the potential may exist for native vegetation to remain within the soft-bottom portion of the channel or if additional hydraulic capacity is needed. In addition, any channels which may potentially provide restoration opportunities for riparian habitat/vegetation growth shall be identified based on these assessments and a consideration of restoration plans by other agencies.
18. LACFCD shall continue the Feasibility Study process with a schedule of one or more watersheds per year to be analyzed, with completion of all watersheds/studies within six (6) years of the 2010 WDR issuance (i.e., February 4, 2016). The Executive Officer may extend the final deadline by up to 6 months for good cause. LACFCD shall continue to solicit stakeholder input during the remaining Feasibility Study Workplan development and prior to the finalization of the Technical Assessment Report and recommendations.
19. The watershed study areas shall include any channels directly or indirectly affected by proposed maintenance.
20. For each watershed, the Feasibility Study shall include (but not be limited to) the following components:
  - a. Study Workplan
  - b. Technical Assessment Report
  - c. Recommendations
21. **Feasibility Study Workplans**

The remaining Feasibility Study Workplans shall continue to be submitted to the Regional Board Executive Officer for approval. The only pending Study Workplan is for the Santa Clara River Watershed. The plan will include: a detailed plan for a hydrologic and hydraulic analysis of each earth-bottom segment in relation to the conveyance capacity of the upstream and downstream channels, in addition to the Water Quality Monitoring. The hydraulic analysis shall include, but not be limited to, the height and density of vegetation in the earthen channel bottom and its effect on the conveyance capacity of flood flow in the channel and shall include discussion of changes in expected stream flow in response to requirements of the Los Angeles County Municipal Separate Storm Sewer (MS4) NPDES Permit, Standard Urban Stormwater Mitigation Plans (SUSMPs), Total Maximum Daily Loads (TMDLs) and other pertinent local plans including, but not limited to the Integrated Regional Water Management Plan (IRWMP) (including implementation of, and plans for, increased stormwater infiltration), the City of Los Angeles' Integrated Resources Plan, the relevant watershed master plan and LACFCD's Drought Management Plan. Several reasonable Manning's n should be used in the hydraulic analysis to evaluate the representative height of the channel for flood control and natural habitat purposes and should be in accordance with "Guide for Selecting Manning's Roughness Coefficients for Natural Channels and Flood Plains," United States Geological Survey Water-Supply Paper 2339 or other appropriate guidance.

The assessment of biological functions and values of these reaches should be made such that comparisons of habitat type, maturity and extent of native or invasive plants can be made between reaches.

22. **Water Quality Monitoring**

The objectives of the water quality monitoring are to assess BMP effectiveness and to ensure that water quality is not impacted as a result of the proposed maintenance activities, or surface water diversion. BMPs are to be implemented in association with maintenance activities to avoid impacts to water quality that would result in exceedences of water quality standards. As part of the Feasibility Study, water quality assessments within each reach will be required on a one-time basis before, after, and during maintenance clearing activities. Each project reach will require three (3) sampling stations: upstream of the project reach; within the project reach; and downstream of the project reach. The testing parameters required will be the same as for Surface Water Diversion.

- pH
- temperature
- dissolved oxygen
- turbidity
- total suspended solids (TSS)

Downstream TSS shall be maintained at ambient levels. Where natural turbidity is between 0 and 50 Nephelometric Turbidity Units (NTU), increases shall not exceed 20%. Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%.

Analyses must be performed using approved US Environmental Protection Agency methods, where applicable.

These constituents shall be measured at least once prior to the maintenance activity and then monitored on a daily basis during the first week of maintenance activities, and then on a weekly basis, thereafter, until the work is complete. When reaches are within the watershed designated for a Feasibility Study in a particular year, water quality monitoring should be conducted for those reaches as part of the Feasibility Study and reported with the Technical Assessment Report.

Any exceedance of water quality standards may result in corrective and/or enforcement actions, including increased monitoring and sample collection.

23. **Technical Assessment Report – Hydraulic, and Water Quality Assessment**

Within 6 months of Workplan approval, a Technical Assessment Report (Report) shall be submitted and will include a reach-by-reach list of all the reaches included in the subject watershed with a hydraulic analysis of each reach.

For each reach, the Report shall address capacity requirements for flood control; design criteria and anticipated limitations; and an analysis of potential areas where vegetation may remain; areas with the potential for restoration of native vegetation; and/or where justification exists to clear additional vegetated area. For those areas where vegetation may remain, the Report should specify the amount(s) and type(s) of native vegetation that could remain in the channel.

A comprehensive hydraulic analysis for the existing vegetation conditions will be developed for each channel reach listed in the WDR using HEC-RAS. The data needed to perform the hydraulic computations consists of geometric data, flow data, and roughness coefficients. Sources of channel geometry will consist of as-built plans, field measurements, LiDAR (Light Detection and Ranging), and recent topographic surveys.

The design flow rates will be obtained from various sources, including existing channel design plans, hydraulic reports, and hydrologic studies. For undeveloped areas, design flow rates will account for the effects of a burned watershed and the inclusion of sediment (bulking).

Estimating the roughness coefficients through calibration using HEC-RAS will be done when two stream gaging stations, one upstream and one downstream of a channel reach, are available. For channel reaches with no gaging stations, roughness coefficients will be determined following the procedures specified in references "Open-Channel Hydraulics" by Ven T. Chow and "Guide for Selecting Manning's Roughness Coefficients for Natural Channels and Flood Plains," United States Geological Survey Water-supply Paper 2339. These references describe the use of Cowan's formula, which starts with selecting a base roughness coefficient for native bed material in a straight, uniform, and smooth channel. Based on field site observations and sound engineering judgment, adjustments will be made to the base roughness coefficient to account for surface irregularities, channel cross-section variation in shape and size, obstructions, vegetation, and meandering. Field site investigations will be conducted for all soft-bottom reaches to note vegetation type, density and size, and obstructions within the channel. The information gathered from these site investigations will be used to determine appropriate adjustments and estimate roughness coefficients.

After the hydraulic analyses of the existing vegetation conditions had been completed, the results will be reviewed to determine which reaches have additional capacity and insufficient capacity. For reaches that are found to have additional channel capacity, the amount and type of additional vegetation that might be allowed to remain in the channel reach will be determined in consultation with qualified biologist. A hydraulic model will then be developed using roughness coefficients adjusted to represent the recommended vegetation levels. Results of these models will be checked to ensure that sufficient capacity is maintained along the reach. For reaches with insufficient capacity, the amount of vegetation that needs to be removed to restore flood capacity will be determined.

This Report will also include an assessment of the biological functions and values for each reach and an assessment of water quality as required. These evaluations shall consider whether the vegetation in the channels is native or an exotic and/or invasive species. This will be useful when determining the value or priority of leaving the vegetation in the channel. The documentation shall also distinguish between sections of invasive/exotic species.

24. **Requirements for Feasibility Study Recommendations**

Within 6 months of Workplan approval, recommendations shall be submitted to the Regional Board Executive Officer and shall include options for reaches where vegetation may be allowed to remain or where native vegetation could be re-established. Recommendations shall also include suggested schedules of vegetation removal frequency in order to ensure the maximum habitat preservation is achieved, consistent with necessary flood control. For recommendations approved by the Executive Officer and by other appropriate regulatory agencies including the ACOE and CDFW, LACFCD shall make the necessary changes to the Maintenance Plan, including proposals for additional BMPs as may be appropriate, and shall submit such changes to the Executive Officer 21 days prior to any clearing activities.

26. By March 31, 2016, LACFCD will submit to the Regional Board, a draft Feasibility Report for the Malibu Creek and Dominguez Channel.

27. By February 28, 2017, LACFCD will submit to the Regional Board, a final Feasibility Report for the Malibu Creek and Dominguez Channel including recommendations.

28. By August 31, 2017, LACFCD will submit to the Regional Board, a draft Feasibility Report for the Santa Clara River.

25. By February 28, 2018, LACFCD will submit to the Regional Board, a final Feasibility Report for the Santa Clara River including recommendations as described in item 24, "Requirements for Feasibility Study Recommendations."

29. LACFCD shall conduct Risk and Uncertainty analyses, working with the ACOE, as warranted in order to identify those reaches with federally required maintenance requirements that may be a candidate for revised maintenance procedures that would allow more vegetation to remain in the channel, or that would allow alternative channel clearing approaches/methods with potentially less negative effect on beneficial uses. LACFCD may apply under Section 14 of the Rivers and Harbors Act of 1899 and codified in 33 USC 408 (commonly referred to as "Section 408") for modification of federally required maintenance requirements with the ACOE, if appropriate.

30. LACFCD shall continue to facilitate and host WDR Working Group meetings and other outreach activities, as appropriate, to involve stakeholders in review of feasibility reports

and decision making concerning priorities for Risk and Uncertainty analyses, section 408 applications, and the location, type and scope of pilot projects to evaluate alternative channel clearing approaches/methods.

**Pilot Projects (Pursuant to California Water Code 13267)**

29. LACFCD shall identify pilot projects to test alternative vegetation management methods that may have a less negative impact on beneficial uses, especially wildlife and habitat uses. Examples of pilot projects may include: mowing as opposed to scraping for vegetation clearing; clearing just one bank of a particular reach each year; replacing an invasive plant species such as *Arundo donax* with slower-growing native species; exploring different combinations of plant species in a given reach; or study and review of land use in the vicinity of a reach to determine if a level of infrequent flooding could be tolerated.
30. LACFCD shall provide to the Regional Board Executive Officer, and shall make available to stakeholders, potential pilot projects for the upcoming maintenance season (July 1 to June 30). Additional pilot projects may be identified during the maintenance season.
31. LACFCD shall conduct two or more pilot projects each year (July 1 to June 30) after consultation with Regional Board Executive Officer and stakeholders.
32. LACFCD shall evaluate pilot projects in terms of: a) ecological impact, impact to beneficial uses, and impact to local communities; b) positive or negative effects on downstream water quality; c) identification of conditions in permits or other requirements that would need to be modified for the pilot project to be required as routine maintenance; and d) impacts to LACFCD operations in terms of costs, schedule, resources, etc. LACFCD shall provide a report evaluating the pilot project within four months of completion of the pilot project with interim recommendations or, when possible, final recommendations.
33. With Executive Officer approval, LACFCD shall implement new channel maintenance practices identified by pilots during term of this WDR, as feasible.
34. A report containing an evaluation of the Reach 25 pilot project discussed in Findings 52 and 53 with interim recommendations or, if possible, final recommendations shall be submitted to the Regional Board Executive Officer by March 31, 2016.

**Regulatory Authority**

- ~~25-~~35. The Regional Board has determined to regulate the subject discharge of fill materials into waters of the State by issuance of waste discharge requirements (WDRs) pursuant to

Section 13263 of the California Water Code (CWC). The Regional Board considers WDRs necessary to adequately address impacts to beneficial uses of waters of the State from these maintenance clearing activities and to compel mitigation for these impacts where necessary, to meet the objectives of the California Wetlands Conservation Policy (Executive Order W-59-93), and to accommodate and require appropriate changes over the life of the Project.

26.36. The Regional Board, on June 13, 1994, adopted, in accordance with Section 13240 et seq. of the CWC, a revised Water Quality Control Plan, Los Angeles Region (Basin Plan). This updated and consolidated revised Basin Plan was approved by the State Water Resources Control Board and the Office of Administrative Law on November 17, 1994, and February 23, 1995, respectively. A summary of regulatory provisions is contained in 23 CCR 3912. The Basin Plan identifies beneficial uses in Chapter 2 and water quality objectives in Chapter 3 for waters of the State within the Region, including surface waters and ground waters. This Order is in compliance with the Basin Plan, and amendments thereto.

27.37. The goals of the California Wetlands Conservation Policy (Executive Order W-59-93, signed August 23, 1993) include ensuring “no overall loss” and achieving a “...long-term net gain in the quantity, quality, and permanence of wetland acreage and values...” Senate Concurrent Resolution No. 28 states that “[i]t is the intent of the legislature to preserve, protect, restore, and enhance California’s wetlands and the multiple resources which depend on them for benefit of the people of the State.” Section 13142.5 of the CWC requires that the “[h]ighest priority shall be given to improving or eliminating discharges that adversely affect...wetlands, estuaries, and other biologically sensitive areas.”

28.38. The California Environmental Quality Act (CEQA) requires all Projects approved by State agencies to be in full compliance with CEQA, and requires a lead agency to prepare an appropriate environmental document (e.g., Environmental Impact Report or Negative Declaration) for such Projects. The Regional Board finds that the proposed activities are categorically exempt pursuant to Section 15301(d) (Existing Facilities) of the California Environmental Quality Act (CEQA)

29.39. This Project is filed with the Regional Board under file number 99-011, 2015 Amended WDR.

30.40. The Regional Board has notified the LACFCD and other interested agencies and persons of its intent to prescribe WDRs for this discharge.

31.41. A tentative amended WDR was released for public comment on December 18, ~~2014~~, 2015. Written comments were accepted until 5:00 p.m. on January ~~19, 2016~~20, 2015.

32.42. The Board, in a public meeting on February ~~12, 2015~~11, 2016, heard and considered all comments pertaining to the discharge.

### **Prohibitions**

33. Fueling, lubrication, maintenance, operation, and storage of vehicles and equipment shall not result in a discharge or a threatened discharge to waters of the State. At no time shall LACFCD use any vehicle or equipment which leaks any substance that may impact water quality. Staging and storage areas for vehicles and equipment shall be located outside of waters of the State.
34. No construction material, spoils, debris, or any other substances associated with this project that may adversely impact water quality standards, shall be located in a manner which may result in a discharge or a threatened discharge to waters of the State. Designated spoil and waste areas shall be visually marked prior to any excavation and/or construction activity, and storage of the materials shall be confined to these areas.
35. The discharge shall not: a) degrade surface water communities and populations including vertebrate, invertebrate, and plant species beyond the permitted vegetation removal; b) promote the breeding of mosquitoes, gnats, black flies, midges, or other pests; c) alter the color, create visual contrast with the natural appearance, nor cause aesthetically undesirable discoloration of the receiving waters; d) cause formation of sludge deposits; or e) adversely affect any designated beneficial uses.

### **Provisions**

36. LACFCD shall submit copies of any other final permits and agreements required for this project, including, but not limited to, the ACOE Section 404 Permit and the California Department of Fish and Wildlife's (CDFW) Streambed Alteration Agreement to the Regional Board 401 Certification Unit. These documents shall be submitted prior to any discharge to waters of the State.
37. LACFCD shall comply with the specifications of its Mitigation Monitoring Program, and the Maintenance Plan, or any subsequently approved plans that follow.
38. Prior to any maintenance activities within the subject reaches, LACFCD shall develop and publish watershed maps which indicate areas of maintenance (impact acreages and types of vegetation impacted) and approximate schedules (including baseline biological surveys, post-surveys and maintenance activity descriptions). This information shall be made publicly available on the LACFCD internet website and be noticed via email notification or other direct notification to watershed councils and other interested persons prior to any routine maintenance activities. For each reach, the information shall include: (a) the proposed schedule; (b) a description of the reach's existing condition; (c) the area

of proposed impact; and (d) a description of any existing aquatic resources (e.g., wetland/riparian vegetation based on readily available information and pre-clearing biological surveys). After submission to the Regional Board Executive Officer, LACFCD will post the Annual Project and Mitigation Monitoring Reports as required.

39. LACFCD shall implement the Plan for Hazard Analysis and Critical Control Points dated April 1, 2010 (HACCP) or any subsequently Executive Officer-approved HACCP to limit the spread of invasive species.
40. LACFCD shall comply with all water quality objectives, prohibitions, and policies set forth in the *Water Quality Control Plan, Los Angeles Region (1994)*, as amended.
41. LACFCD shall implement all Best Management Practices as outlined in the Maintenance Plan, including, but not limited to, the following:

Prior to start of any annual maintenance clearing, qualified biologists shall perform pre-clearing biological resource surveys and photo documentation including sensitive/endangered species focused surveys on specific reaches. No work shall commence without confirmation of findings or no findings of sensitive/endangered species from the biologists. These surveys are also meant to minimize impact on any resources that may potentially use or benefit from the channel.

During construction, biologists shall be available for consultation for any issues that may arise.

42. LACFCD and all contractors employed by LACFCD shall have copies of this WDR, the approved Maintenance Plan, and all other regulatory approvals for this project on site at all times and shall be familiar with all conditions set forth therein.
43. All excavation, construction, or maintenance activities shall follow best management practices to minimize impacts to water quality and beneficial uses. Dust control activities shall be conducted in such a manner that will not produce downstream runoff.
44. All waste and/or dredged material removed shall be relocated to a legal point of disposal if applicable. A legal point of disposal is defined as one for which Waste Discharge Requirements have been established by a California Regional Water Quality Control Board, and is in full compliance therewith. Please contact the Land Disposal Unit, at (213) 620-6600 for further information.
45. LACFCD shall implement all necessary control measures to prevent the degradation of water quality from the proposed project in order to maintain compliance with the Basin Plan. The discharge shall meet all effluent limitations and toxic and effluent standards established to comply with the applicable water quality standards and other appropriate requirements, including the provisions of Sections 301, 302, 303, 306, and 307 of the

Clean Water Act. This WDR does not authorize the discharge by LACFCD for any other activity than specifically described in the current 404 Permit for this project.

46. LACFCD shall allow the Regional Board and its authorized representative entry to the premises, including all mitigation sites, to inspect and undertake any activity to determine compliance with this WDR, or as otherwise authorized by the California Water Code.
47. Application of pesticides must be supervised by a certified applicator and be in conformance with manufacturer's specifications for use. Compounds used must be appropriate to the target species and habitat. Pesticide utilization shall be in accordance with State Water Resources Control Board pesticide permits including Water Quality Order Nos. 2011-0003-DWQ, for Aquatic Animal Invasive Species Control; 2011-0004-DWQ, for Spray Applications; 2011-0002-DWQ, for Vector Control; and 2013-0002-DWQ, for Weed Control.
48. LACFCD shall not conduct any routine maintenance activities within waters of the State during a rainfall event. LACFCD shall maintain a **one-day (1-day) clear weather forecast** before conducting any operations within waters of the State. If rain is predicted within 12 hours after operations have begun, activities shall cease temporarily, and protective measures to prevent siltation/erosion shall be implemented and maintained.
49. LACFCD shall utilize the services of a qualified biologist with expertise in riparian assessments during all construction activities where clearing involves areas to be partially cleared (i.e. some vegetation is to remain in the same reach or in an adjacent reach). The biologist shall be available if necessary during maintenance activities to ensure that all protected areas are marked properly and ensure that no vegetation outside the specified areas is removed. The biologist shall have the authority to stop the work, as necessary, if instructions are not followed. The biologist shall be available upon request from this Regional Board staff for consultation within 24 hours of request of consultation.
50. No activities shall involve wet excavations (i.e., no excavations shall occur below the seasonal high water table). A minimum **5-foot** buffer zone shall be maintained above the existing groundwater level. If construction or groundwater dewatering is proposed or anticipated, LACFCD shall file a **Report of Waste Discharge** to this Regional Board and obtain any necessary NPDES permits/Waste Discharge Requirements prior to discharging waste. Sufficient time should be allowed to obtain any such permits (generally 180 days). If groundwater is encountered without the benefit of appropriate permits, LACFCD shall cease all activities in the areas where groundwater is present, file a Report of Waste Discharge to this Regional Board, and obtain any necessary permits prior to discharging waste.
51. All maintenance activities not included in this WDR, and which may require a permit, must be reported to the Regional Board for appropriate permitting. Bank stabilization and grading, as well as any other ground disturbances, are subject to restoration and revegetation requirements, and may require additional WDR action.

52. Maintenance activities in the Santa Clara River area shall comply with the provisions of the Natural Rivers Management Plan (NRMP). The following provisions apply to soft-bottom channel reaches that are within the jurisdiction of the approved NRMP: a) Periodic clearing of vegetation immediately upstream and downstream of certain existing bridges which were not designed in accordance with the NRMP; b) Periodic removal of woody vegetation from riprap to protect its structural integrity; c) Periodic clearing of storm drain outlets to ensure proper drainage; d) Periodic removal of ponded water that causes odor problems; e) As-needed repairs of bridges; f) As-needed repairs of bank protection; and g) As-needed clearing of vegetation from water quality filters and treatment basins.
53. All surface waters, including ponded waters, shall be diverted away from areas undergoing grading, construction, excavation, vegetation removal, and/or any other activity which may result in a discharge to the receiving water.
54. LACFCD shall develop and submit a Surface Water Diversion Plan (plan) to the Executive Officer. The Surface Water Diversion Plan shall include the proposed method and duration of diversion activities, structure configuration, construction materials, equipment, erosion and sediment controls, and a map or drawing indicating the locations of diversion and discharge points. Contingency measures to address the need for regulation of flow discharge rates and/or direction of flows to protect beneficial uses downstream of the diversion shall be included as part of the Surface Water Diversion Plan. The Surface Water Diversion Plan shall be submitted prior to any surface water diversions.
55. LACFCD shall implement the Surface Water Diversion Plan for all water diversions or, for circumstances which require a deviation from the Surface Water Diversion Plan, may submit to the Regional Board an individual plan for the surface water diversion prior to the surface water diversion.
56. If surface flows are present, then upstream and downstream monitoring for the following shall be implemented:
- pH
  - temperature
  - dissolved oxygen
  - turbidity
  - total suspended solids (TSS)

Downstream TSS shall be maintained at ambient levels. Where natural turbidity is between 0 and 50 Nephelometric Turbidity Units (NTU), increases shall not exceed 20%. Where natural turbidity is greater than 50 NTU, increases shall not exceed 10%.

Analyses must be performed using approved US Environmental Protection Agency methods, where applicable. These constituents shall be measured at least once prior to diversion and then monitored for on a daily basis during the first week of diversion and/or dewatering activities, and then on a weekly basis, thereafter, until the in-stream work is complete.

LACFCD shall submit results of the analyses as part of the Annual Monitoring Report to the Regional Board, to the attention of the 401 Program Unit, in a tabular format containing results of each parameter for each channel reach. Diversion activities shall not result in the degradation of beneficial uses or exceedance of water quality objectives of the receiving waters. Any such violations may result in corrective and/or enforcement actions, including increased monitoring and sample collection.

57. LACFCD shall restore all areas of TEMPORARY IMPACTS to waters of the United States and all other areas of temporary disturbance outside of areas of maintenance which could result in a discharge or a threatened discharge to waters of the State. Restoration shall include returning areas to pre-project contours and planting with native vegetation, if feasible. Restored areas shall be monitored and maintained with native species as necessary for five years. LACFCD shall implement all necessary Best Management Practices to control erosion and runoff from areas associated with this project.
58. If ongoing maintenance activities on a new channel reach were covered by previous certifications with mitigation, additional mitigation will not be required. Prior to clearing of the new reaches, or where additional clearing has been authorized by the Regional Board, LACFCD will document and provide to the Regional Board the amount of riparian vegetation to be removed for maintenance in these reaches.
59. LACFCD shall provide COMPENSATORY MITIGATION for the new impacts based on a ranking system which evaluates functions and values within each reach. Mitigation ratios will be determined on a case-by-case basis in compliance with the USEPA and ACOE 2008 Final Rule for Compensatory Mitigation for Losses of Aquatic Resources. Mitigation proposed by LACFCD will require approval by the Executive Officer.
60. LACFCD shall submit a draft Mitigation Plan for approval by the Regional Board Executive Officer for the new permanent impacts on a timeline as agreed collectively and for approval by all regulatory agencies, including the ACOE and CDFW. The Draft Mitigation Plan will specify the proposed types of mitigation types, third party conservancies, or in lieu fee programs as determined by LACFCD, the RWQCB, ACOE, and CDFW. The Draft Mitigation Plan shall also include location, methods, monitoring, performance criteria, reporting and any other pertinent information. Regional Board Executive Officer will approve the plan, require changes and re-submission, or will make modifications to the plan, as appropriate to achieve the no-net-loss policy of Executive Order W-59-93.

61. Mitigation shall take place in the vicinity of the impacted reach or off-site. If not feasible, within the same watershed. If LACFCD can demonstrate that there are no mitigation areas in the same watershed, mitigation may occur through in-lieu funding with an approved Mitigation Bank or via a Conservancy Group, as approved by all regulatory agencies including the ACOE and CDFW.
62. All mitigation areas shall be preserved and maintained as habitat in perpetuity.
63. To determine compliance with this WDR, pursuant to California Water Code section 13267, LACFCD shall submit to the Regional Board Executive Officer an **Annual Project and Mitigation Monitoring Report (Annual Report)** by **May 1<sup>st</sup>** of each year for each year the WDR is in effect. Any revisions to the previous Annual Reporting outline and/or technical or field checklists shall be submitted to the Regional Board Executive Officer for approval within 60 days of the issuance of this WDR.
64. The Annual Report shall describe in detail all of the project/maintenance activities performed during the previous year and all restoration and mitigation efforts. until success targets are met. The Annual Reports shall describe the status of other agreements (e.g., mitigation banking) or any delays in the mitigation process. At a minimum the Annual Reports shall include the following documentation, as set forth in the Annual Report Outline dated April 5, 2010:

#### Annual Report Summary

- a. List of attached documentation;
- b. Description of all project/maintenance activities performed during the previous year;
- c. Discussion of all restoration and mitigation efforts;
- d. Status of other agreements (e.g., mitigation banking) or any delays in the mitigation process;
- e. Summary of compliance with all requirements of the WDR; and
- f. A certified statement (Declaration) from LACFCD that all information reported in the annual report is complete and accurate.

#### Documentation/Attachments

- a. Mitigation site: color photo documentation (pre-, during, and post-project and mitigation site conditions);
- b. Narrative and photo documentation of any BMP installations during and post-project maintenance activities;
- c. Evaluation of the effectiveness of BMPs utilized based on field observations and water quality monitoring data required;
- d. Photo documentation of any vegetation left within maintenance areas immediately following maintenance clearing (including acreage);

- e. Documentation of estimates of volumes of vegetation removed from the project areas including an analysis of inter-annual trends in vegetation loads;
  - f. Documentation of estimates of volumes of trash removed from the project areas including an analysis of inter-annual trends in trash loads;
  - g. Documentation of estimates of volumes of sediment removed from the project areas including an analysis of inter-annual trends in sediment loads;
  - h. Biological information including baseline biological surveys and post-surveys;
  - i. Geographical positioning system (GPS) coordinates in decimal-degrees format outlining the boundary of actual project and new mitigation areas (one time submittal);
  - j. The overall status of project including a detailed schedule of work;
  - k. Copies of all revised permits related to this project;
  - l. Water quality monitoring results for each reach;
  - m. A certified statement of "No Net Loss" of Wetlands Associated with this project;
  - n. Discussion of any monitoring activities and exotic plant control efforts; and
  - o. Description of all outreach activities in the previous year.
65. All applications, reports, or information submitted to the Regional Board shall be signed by either a principal executive officer, ranking elected official, or other duly authorized employee.
66. Each and any report submitted in accordance with this WDR shall contain the following completed declaration;

“I declare under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who managed the system or those directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on the \_\_\_\_\_ day of \_\_\_\_\_ at \_\_\_\_\_.

\_\_\_\_\_ (Signature)

\_\_\_\_\_ (Title)”

67. All communications regarding this project and submitted to this Regional Board shall identify the Project File Number **99-011 2015 Amended WDR**. Submittals shall be sent to the Executive Officer where identified and to the 401 Certification Unit, Attention: Valerie Carrillo Zara.

68. Any modifications of the proposed project may require submittal of a new Clean Water Act Section 401 Water Quality certification application or WDR application and appropriate filing fee.

**Enforcement:**

69. LACFCD or their agents shall report any noncompliance with this Order. Any such information shall be provided verbally to the Executive Officer within 24 hours from the time LACFCD becomes aware of the circumstances. A written submission shall also be provided within five days of the time LACFCD becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue and steps taken or planned to reduce, eliminate and prevent recurrence of the noncompliance. The Executive Officer, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
- a) In the event of any violation or threatened violation of the conditions of this WDR, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under State law.
  - b) In response to a suspected violation of any condition of this WDR, the State Water Resources Control Board (State Board) or Regional Board may require the holder of any permit or license subject to this WDR to furnish, under penalty of perjury, any technical or monitoring reports the State Board or Regional Board deems appropriate, provided that the burden, including costs, of the reports shall be a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.
  - c) In response to any violation of the conditions of this WDR, the State Board or Regional Board may add to or modify the conditions of this WDR as appropriate to ensure compliance.
70. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:
- a. Violation of any term or condition contained in this Order;
  - b. Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts;
  - c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized reuse;
  - d. Endangerment to public health or environment that can only be regulated to acceptable levels by Order modification or termination.

71. Additional Reports: The Dischargers shall furnish any information the Regional Board may request to determine whether or not cause exists for modifying, revoking and reissuing, or terminating this Order. The Dischargers shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.
72. Discharge a Privilege: All discharges of waste into the waters of the State are privileges, not rights. In accordance with Water Code section 13263(g), these requirements shall not create a vested right to continue to discharge and are subject to rescission or modification.
73. Term: This Order expires ~~1 year~~ 2 years and 5 months from the date of ~~issuance~~ amendment of this Order or upon such time it is replaced coincident with a renewed ACOE CWA Section 404 permit, whichever is sooner. If an ACOE CWA Section 404 permit is renewed, LACFCD must file a Report of Waste Discharge with the Regional Board no later than 120 days before of the expected date of the renewed ACOE CWA Section 404 permit for consideration of issuance of new or revised requirements. If no such ACOE CWA Section 404 Permit is renewed and LACFCD wishes to continue maintenance activities after this Order expires, LACFCD must file a Report of Waste Discharge with the Regional Board no later than 120 days before of the expiration date of this Order for consideration of issuance of new or revised requirements. Any discharge of waste after the expiration date of this Order is a violation of Water Code section 13264. The Regional Board is authorized to take appropriate enforcement action for any noncompliance with this provision including assessment of penalties.
74. Regional Board Order R4-2010-0021, adopted by the Regional Board on February 4, 2010, is hereby terminated, except for enforcement purposes.

I, Samuel Unger, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of ~~an Order adopted~~ No. R4-2015-0032 as amended by the California Regional Water Quality Control Board, Los Angeles Region, on February ~~12, 2015~~ 11, 2016.

Ordered by: \_\_\_\_\_  
Samuel Unger  
Executive Officer

Attachment 2. Reaches 1-110 permitting summary LACFCD soft-bottom channel WDR